

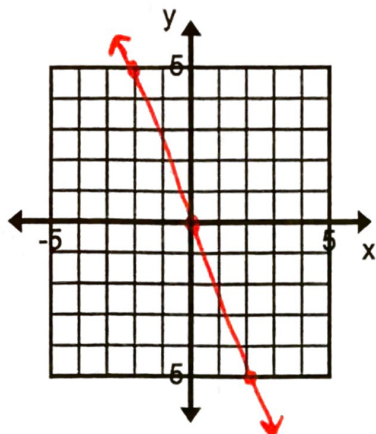
## HW 2-5: Effects of $m$ and $b$

Identify the slope ( $m$ ),  $y$ -intercept ( $b$ ) and then graph the equation.

1.  $y = -\frac{5}{2}x$

$m = \underline{-5/2}$

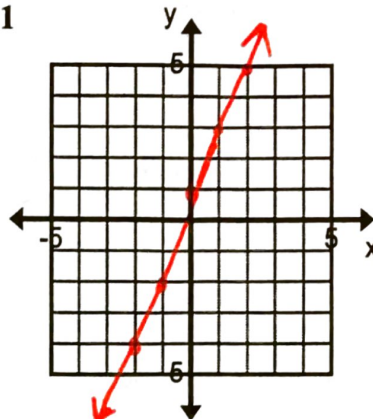
$b = \underline{0}$



3.  $y = 2x + 1$

$m = \underline{2}$

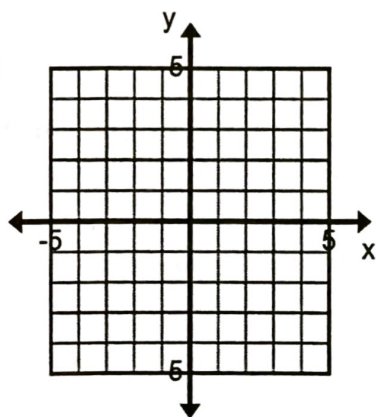
$b = \underline{1}$



2.  $y = -\frac{2}{3}x - 4$

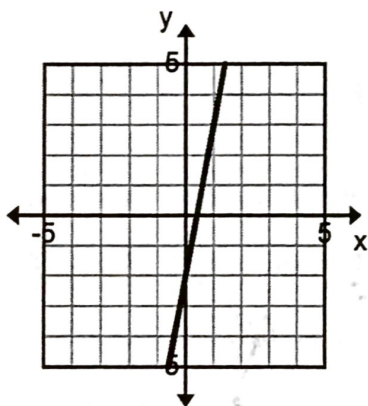
$m = \underline{\hspace{2cm}}$

$b = \underline{\hspace{2cm}}$



Given the graphs, identify the slope ( $m$ ),  $y$ -intercept ( $b$ ) and write the equation of the line.

4.

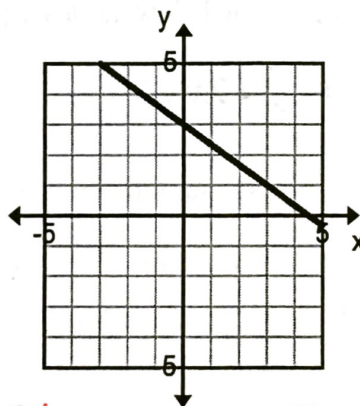


$m = \underline{\hspace{2cm}}$

$b = \underline{\hspace{2cm}}$

Equation: \_\_\_\_\_

5.



$m = \underline{-2/3}$

$b = \underline{3}$

Equation:  $y = \underline{-\frac{2}{3}x + 3}$

Write the slope-intercept form of the equation of each line given the slope and y-intercept.

6. slope =  $-\frac{1}{3}$

y-intercept = -2

8. slope =  $\frac{1}{5}$

y-intercept = -4

7. slope = 0

y-intercept = 6  $y=6$

9. slope = 5

y-intercept = -3

$y=5x-3$

10. What effect does decreasing the y-intercept have on the graph of the equation  $y = -2x + 5$ ?

11. Given the equation  $y = 5x + 7$ , which of the following equations has a graph with a steeper slope? (There may be more than one correct answer)

A.  $y = 6x + 7$

B.  $y = 5x + 8$

C.  $y = -4x + 7$

D.  $y = 7x + 5$

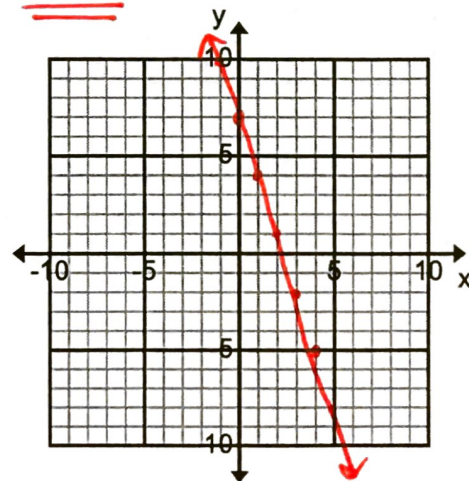
12. Which equation below has a steeper slope?

A.  $y = 2x + 9$

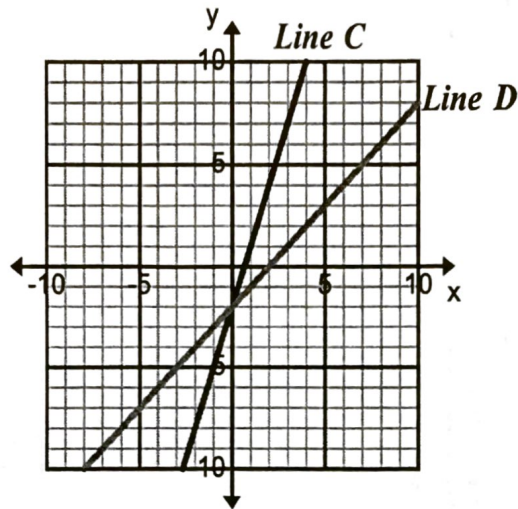
B.  $y = -8x + 1$

13. Given the equation  $y = -3x + 2$ , if the line shifts up by 5 units what is the new equation of the line? Then, graph the new equation.

New Equation:  $y = -3x + 7$



14. Given the equation  $y = \frac{3}{4}x - 2$ , if the slope remains the same and the  $y$ -intercept increases by 6 units what is the new equation of the line?



15. Starting with Line C and going to Line D, which part of the equation changed? Explain how you know.

$m$  or  $b$

Explain: they have the same  $y$ -intercept, but NOT the same steepness (slope)

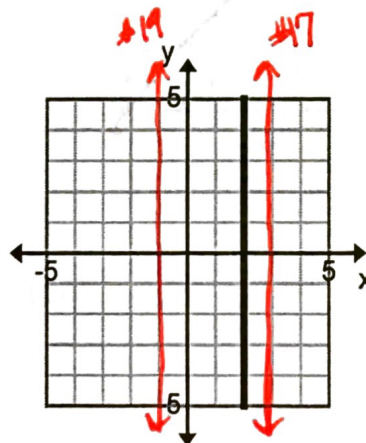
16. How does the slope change from Line C to Line D?

increase or decrease

Graph equations 29-31 on the same graph given below. Label each line (or use different colors)

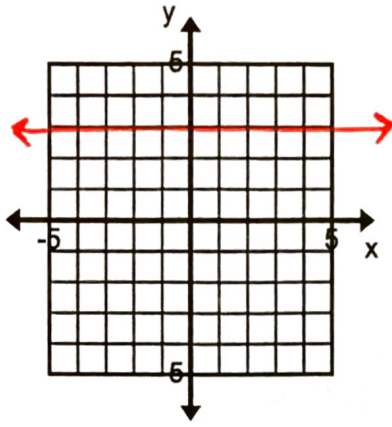
Given equation:  $x = 2$

17.  $x = 3$   
 18.  $x = 4$   
 19.  $x = -1$

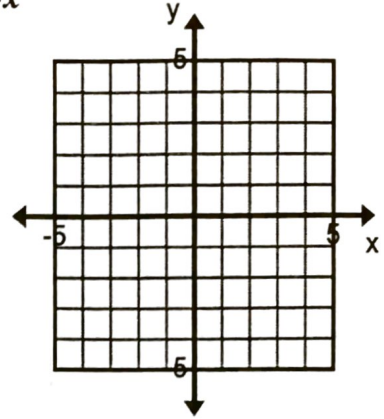


Graph.

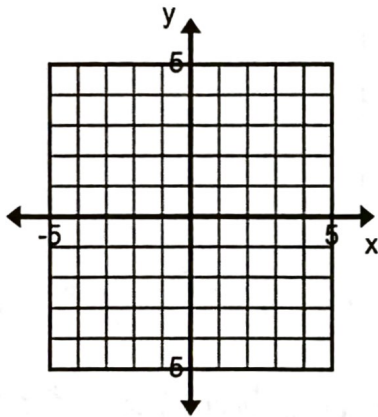
21.  $y = 3$



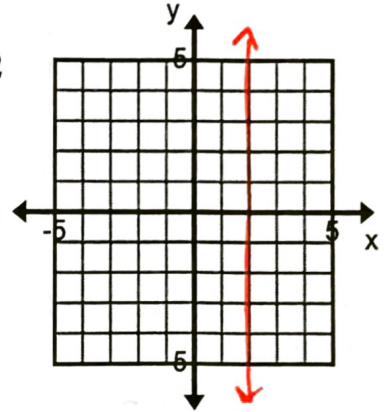
24.  $y = 4x$



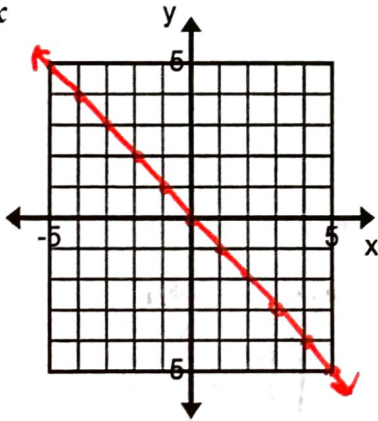
22.  $y = x$



25.  $x = 2$



23.  $y = -x$



Find the slope between these two points.

26.  $(-3, 5)$  and  $(7, 5)$

Solve for y. (Get y alone)

27.  $-3x + 7y = -28$

*Don't do yet.*

Solve the equation.

28.  $7m + 12 = 3(6 - m)$